

Commentary: Children's Moral Development within an Environment of Changing Play Experiences and Pervasive Technologically-Augmented Play Materials

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At the present time both physicians and educators are examining and discussing potential positive and negative developmental effects of technologically-augmented play materials and communication devices that are now being used extensively by young children, elementary age children, and adolescents. There are questions about how extensive use of such devices might affect children's brain development and, consequently, their cognitive, social, emotional, and moral development. Because the age period between birth and age seven is one in which the major neuronal connections are formed in the brain, during that time period environmental influences will have an especially important role in determining how the next generation's brains will function. For example, the frontal lobe has rapid expansion of synaptic connections during the age 3 - 5 period and the sociodramatic pretense that typically occurs during this time involves many child-child discussions about appropriate behaviors, role taking, and script elaboration, all of which involve moral issues like sharing and showing empathy. When frontal lobe pruning is occurring during the age 5 - 8 age period, in their elaborate sociodramatic play and self-designed games children address many problematic issues related to moral reasoning. Unfortunately, there is sparse research on potential brain development or moral development issues when children are playing with adult-designed and adult-controlled stimuli, which is what is provided in technologically-augmented devices.

During an earlier time in my career, I wrote a book on human development [1] and one of the topics focused on theory and research related to the course of moral development. In the late 20th century, there were a number of prominent theorists who addressed moral development issues [2-7] and most of them noted that children's moral development was related to and affected by children's social play development. They described how ongoing cognitive and emotional development issues interacted with play development and discussed how other environmental factors might influence children's and adolescent's progress through various moral development stages. They outlined various stages of moral development that humans typically go through and discussed how early social interactions during children's play with other children might facilitate moral development [2,4,6,7]. They noted that, because in children's face to face interactions with peers during play they encounter moral dilemmas, gain empathy for others, and reason about issues such as fairness, their moral development is promoted. In fact, Damon stated, "Morality arises naturally out of social relationships, and children's morality is no exception" (p. 2, 1988).

The development of moral thinking during spontaneous types of game playing was especially stressed by Piaget [4], who described how children negotiate and renegotiate moral issues in child-directed play that he called "games with rules". Turiel [6] described how children and adolescents made distinctions between moral issues and conventional social issues on the playground and in other social settings, and how they gained moral reasoning through discussions of moral issues like fairness, empathy, and rule-making. That is, child-directed play and other types of informal social contact with peers gives children opportunities to reason about and reach judgements on

whether an act is “fair” or “kind,” adjust the rules or practices to be more equitable, show concern for others who need extra help or turns, and judge other players on their behaviors if they impede good relationships. Children also reason about particular social rules and reject unfair or hurtful ones, even if they are adult- determined rules.

Kohlberg [3] stated that growth in moral reasoning and behavior involves exposure to moral conflicts (appropriate for a child's age level) along with the ability to discuss (e.g. “argue”) about these issues with peers, and, as these cognitive conflicts are discussed and resolved, moral reasoning grows to higher levels. Most adults (at least those above age 30) can remember many instances of long play times with siblings and other children in which they discussed issues of fairness, gained social knowledge of other perspectives, increased in ability to feel empathy, and developed a greater moral compass. More recently, a colleague and I also have written about the importance of this play/moral development interface [8-10], based on information from our interviews with college student's memories of their early play experiences.

Some recent research on the relationship of children's play to their exhibition of moral behaviors supports these play/moral connections. For example, in a study of kindergartener's and 4th grader's sharing behavior in play, Benenson, Markovits, Roy and Denko [11] reported that as children develop, they become more egalitarian in toy use, although at both age levels this behavior depends on the context of play. Moral and conventional rules of behavior during 4- and 5-year-olds social play were studied by Tulviste and Koor [12] and the researchers concluded that moral rules, especially related to issues of justice were most often cited when conflicts during play occurred. They also reported that boys were more likely to bring up justice and rights issues than girls were. Rakoczy [13] extensively discusses how “collective intentionality” is developed through children's pretense and asserts that these experiences assist children's growth into the cultural life of their society.

According to Hamlin [14] young children may have a basic understanding of moral actions and be able to evaluate when such actions do not occur. This understanding may not always be evident in their playful interactions, however, especially with technology-augmented toys as playthings. For example, Smimova [15] found that children of 5 to 5½ were very interested in an interactive toy but they played at a simpler “functional” level rather than showing their highest level of play behaviors. That is, the toy was not used in imaginative play or with elaborations and, although they could relate to non-technologically-augmented “character” toys and show relational and morally relevant behaviors they did not show such behaviors when they played with the technology-augmented interactive toy. In two of my own studies of children's play with technology-augmented toys, I also found that the play level of children was more likely to be functional rather than creative or morally challenging because the children spent most of their time finding out what the toys did (due to their technology-augmented features) rather than exploring out what actions they could do with the toy and what play themes they could initiate. I concluded that finding out “what the toy does” interfered with the children's deciding on what the toy should do in relation to their own cognitive schemes, and thus, their higher levels of play were not present [16]. Whether this situation would continue to exist over time with such a toy is not clear. However, if the toy cannot be used in many ways by the child, its play value (and thus its moral dimensions) may be limited.

Although some authors have expressed concerns about how very young children's development might be negatively affected by pervasive use of electronic toys [17], Marsh [18] has cautioned that this might be an example of the ‘moral panic’ that often accompanies new technology use. However, even she suggests the need for further careful research to examine the impact of pervasive technology-augmented toy use on children's development. Other researchers are trying to design technology-augmented games that purport to enhance children's moral development, such as PlayGreen, which addresses issues of environmental sustainability [19]. There are few studies that have looked at children's moral development in relation to their play with technology-augmented toys, however.

While pediatricians and child development specialists have rightly raised concerns about some aspects of the present technologically pervasive environment on children's development, few have speculated about the potential effects on children's moral development or

noted how child morally-relevant self-directed social play interactions may be lost because of the greater use of adult designed technology-augmented communication devices. Presently even adult moral behaviors and reasoning seem to be affected (primarily negatively) by technological communication devices. However, moral development does not presently appear to be a major area of theoretical study or of academic research interest (or even a topic of the popular press). I believe that the relationship between technology-augmented toys and children's moral development is an issue that physicians, educators, researchers, and parents should be concerned about, even if its effect is only that such play is restricting the amount of time children have for face-to-face pretense and game play with others. The fact that technology-augmented play is becoming pervasive along with highly time-structured and supervised children's lives [20] makes it imperative that the potential effects of such environments on child, adolescent, and even adult moral development should be studied! If children now seem to have less time for engaging in the types of human to human play interactions that have been deemed essential to the development of higher levels of moral development, this issue should be of concern. My plea is for greater emphasis on the study of these phenomena and the ways they may be affecting how young humans of every age develop moral reasoning and gain ability to engage in moral behaviors.

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